

REMARKS**Status of claims:**

Claims 1-3 and 16 remain for reconsideration. Claims 26-32 are newly added. Claims 4-15 and 17-25 have been cancelled without prejudice or disclaimer.

Prior Art Rejections:

In the Office Action dated April 1, 2003, the Examiner set forth the following rejections against the claims:

1. Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated by Kosemura, U.S. Patent No. 6,330,377 (hereinafter "Kosemura").
2. Claims 16, 20 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kosemura in view of Nakamura, U.S. Patent No. 5,604,835.
3. Claims 2, 4, 17, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kosemura Nakamura and U.S. Patent 6,311,004 to Kenney.
4. Claims 3, 18, and 22 were rejected under 35 U.S.C. § 103(a) as being

unpatentable over Kosemura, Nakamura, and Kenney, further in view of U.S. Patent 4,879,318 to Lipscomb.

These rejections are respectfully traversed based on the following discussion.

Briefly, the present invention is directed to a method of making a photonic via in a substrate. As amended claims 1-3, and 16 are directed to embodiments of the invention shown in Figures 4 and 5 and described on page 6 of the specification. Claims 27-32 are further directed embodiments of the invention shown in Figures 7 and 8 and described on pages 7-9 of the specification.

In particular, the photonic via is formed by creating a hole in a substrate, heating the substrate to expand the hole, inserting a fiber optic in the hole and allowing the substrate to cool, thus contracting the hole and holding the fiber optic in place. As recited in later claims, various methods are claimed for forming the angled waveguides to redirect light from the fiber optic in a direction substantially parallel to the substrate. No new matter has been added.

It is respectfully submitted that the prior art of record does not anticipate nor make obvious the amended claims.

U.S. Patent 6,330,377 to Kosemura appears to be directed to an optical transmitter and receiving apparatus including a hole through a substrate. However, Kosemura does not teach or suggest heating the substrate or placing

a fiber optic through the heat expanded hole.

U.S. Patent 5,604,835 to Nakamura appears to be directed to an integrated optical waveguide device. Nakamura does not teach a hole through the substrate, nor does it teach or suggest heating the substrate or placing a fiber optic through the heat expanded hole.

U.S. Patent 6,311,004 to Kenney appears to be directed to a therm-optic polymer photonic device. Again, Kenney does not teach a hole through the substrate, nor does it teach or suggest heating the substrate or placing a fiber optic in the heat expanded hole.

Finally, U.S. Patent 4,879,318 to Lipscomb appears to be directed to a plastic lens composition. Lipscomb does not teach a hole through the substrate, nor does it teach or suggest heating the substrate or placing a fiber optic in the heat expanded hole.

As amended, independent claim 1 recites "A method of making a photonic via comprising: making a hole in a substrate, wherein the hole extends from one side of the substrate through the substrate to an opposite side of the substrate; heating the substrate to expand the hole; inserting a fiber optic into the hole; cooling the substrate to contract the hole to hold the fiber optic in place; and polishing the substrate" (emphasis added).

Since the features recited in the claims are not taught or suggested by the prior art of record, taken alone or in combination, it is respectfully requested that the outstanding grounds of rejection based on Kosemura,

Nakamura, Kenney, and Lipscomb be withdrawn.


In view of the foregoing, it requested that the application be reconsidered, that claims 1-3, 16, and 26-32 be allowed and that the application be passed to issue. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,

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Date:

10/01/03


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